



**west virginia** department of environmental protection

Office of Oil and Gas  
601 57th Street SE  
Charleston, WV 25304  
(304) 926-0450  
(304) 926-0452 fax

Earl Ray Tomblin, Governor  
Randy C. Huffman, Cabinet Secretary  
www.dep.wv.gov

May 30, 2014

**WELL WORK PLUGGING PERMIT**

**Plugging**

This permit, API Well Number: 47-3304285, issued to PDC MOUNTAINEER LLC, is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

Upon completion of the plugging well work, the above named operator will reclaim the site according to the provisions of WV Code 22-6-30. The above named operator will also file, as required in WV Code 22-6-23, an affidavit on form WR-38 by two experienced persons in the operator's employment and the Oil and Gas inspector that the work authorized under this permit was performed and a description given. Failure to abide by all statutory and regulatory provisions governing all duties and operations here under may result in suspensions or revocation of this permit and in addition may result in civil and/or criminal penalties being imposed upon the operator.

This permit will expire in two (2) years from date of issue. If there are any questions, please free to contact me at (304) 926-0499 ext. 1654.

A blue ink signature of James Martin, Chief, is written over the text.

James Martin  
Chief

Operator's Well No: LOWNDES 4  
Farm Name: DOTSON H. CATHER TRUSTEE  
**API Well Number: 47-3304285**  
**Permit Type: Plugging**  
Date Issued: 05/30/2014

## PERMIT CONDITIONS

West Virginia Code § 22-6-11 allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

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### CONDITIONS

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1. All pits must be lined with a minimum of 20 mil thickness synthetic liner.
2. In the event of an accident or explosion causing loss of life or serious personal injury in or about the well or while working on the well, the well operator or its contractor shall give notice, stating the particulars of the accident or explosion, to the oil and gas inspector and the Chief within twenty-four (24) hours.
3. Well work activities shall not constitute a hazard to the safety of persons.

WW-4B  
Rev. 2/01

1) Date April 14, \_\_\_\_\_, 20 14  
2) Operator's  
Well No. Lowndes #4 \_\_\_\_\_  
3) API Well No. 47-013 - 4285

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL AND GAS

APPLICATION FOR A PERMIT TO PLUG AND ABANDON

4) Well Type: Oil \_\_\_\_ / Gas XX / Liquid injection \_\_\_\_ / Waste disposal \_\_\_\_ /  
(If "Gas, Production XX or Underground storage \_\_\_\_ ) Deep \_\_\_\_ / Shallow \_\_\_\_

5) Location: Elevation 316 m (1,036 ft) Watershed Davisson Run  
District Clark County Harrison Quadrangle Wolf Summit 7.5'

6) Well Operator PDC Mountaineer, LLC 7) Designated Agent Steven P. Johnson  
Address 120 Genesis Blvd. Address 120 Genesis Blvd.  
Bridgeport, WV 26201 Bridgeport, WV 26201

8) Oil and Gas Inspector to be notified 9) Plugging Contractor  
Name Sam Ward Name TBD  
Address P.O. Box 2327 Address \_\_\_\_\_  
Buckhannon, WV 26301

10) Work Order: The work order for the manner of plugging this well is as follows:

- Check TD. Set with C1A cement plug td to 2125'. Tag BHP.
- Remove 5 3/8" at free point. Set plug at cut with C1A cement.
- Remove 6 5/8" at free point. Set plug at cut with C1A cement.
- Set 100' C1A cement plug at elevation.
- Remove 8 1/2" at free point. Set plug at cut with C1A cement.
- Remove 10" at free point. Set plug at cut with C1A cement.
- Set plug with C1A cement from ~~250'~~ 250' to surface. Install monument with a minimum of 6" diameter with a minimum of 10' below surface in well bore, also with a minimum 30" above surface and filled with concrete not cement.

GEL SPACER MUST BE USED BETWEEN CEMENT PLUGS,  
All plugs must be 100' minimum length spacer

Notification must be given to the district oil and gas inspector 24 hours before permitted work can commence.

Work order approved by inspector S. D. Warratt Date 4/25/2014  
Office of Oil and Gas  
WV Dept. of Environmental Protection

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MAY - 7 2014

GEL SPACER MUST BE FRESH WATER WITH A  
MINIMUM OF 6% BENTONITE BY WEIGHT.

05/30/2014

ENTIRE WELL BORE MUST BE FILLED WITH GEL AND CEMENT



Drilling Commenced: September 15, 1910  
 Drilling Completed: October 28, 1910

Conductor	1910	1911	Days	1910	1911
Red Rock	18	18		Sand	10 1004
Lime	17	35		Slate	8 1012
Slate	20	55		Red Rock	40 1052
Lime	27	82		Lime	10 1062
16 Water-4 bailers per hr.				Slate	8 1070
Red Rock	12	94	4	Lime	23 1092
Lime	34	128		Red Rock	13 1105
Slate	22	150		Lime	60 1165
10" Casing				Red Rock	20 1185
Water				Lime	12 1197
17 Lime	12	162		Red Rock	10 1207
Coal	3	165		Slate	10 1217
Slate	27	192	5	Little Lime	16 1239
Lime	18	210		Pencil Slate	20 1259
Water-3 bailers per hr.			6	Big Lime	68 1321
19 Pulled 10" Casing				Small showing of Gas in Injun	
Slate	7	217		1255' steel line measurement	
10" Casing		221	7	6-5/8" Casing 1368	
Lime	37	254	8	Shut down to set 6" bits	
20 Slate	36	290		repaired.	
Lime	27	317	10	Injun	102 1423
Coal	1	318	12	Lime	20 1443
Slate	22	340		Slate & Shells	75 1518
Red Rock	18	358		Lime	22 1540
Lime	20	378		Slate & Shells	25 1565
Sand	24	402	13	Lime	27 1592
21 Shut down for Patr.				Slate & Shells	46 1639
22 Slate & Shells	42	444		Lime	22 1660
Lime	27	471	14	Slate	27 1687
23 Slate & Shells	43	514		Lime	20 1707
Sand	17	531		Slate	13 1720
Slate	24	555	15	Berea Grit	24 1744
Lime	20	575		Slate	10 1754
Slate	27	602		Lime	8 1762
Sand	23	625		Slate	12 1774
24 Slate & Shells	28	653		Lime	8 1782
Slate	20	673	17	50 Foot (Gas at 1811' steel	
Slate & Shells	38	711		line measurement. 1834	
1st Salt Sand	20	731		Slate	10 1834
Water 4 bailers per hr.			18	30 Foot	34 1868
26 Slate & Shells	29	760	19	Slate	16 1894
2nd Salt Sand	95	855		Sand	18 1900
27 showing of Gas		820		Slate	10 1910
Slate	17	872	20	Sand & Shells	4 1914
Lime	22	894		Red Rock	24 1938
Slate	10	904	21	Lime	12 1950
28 8" Casing		928		Red Rock	10 1960
Sand	72	976		Slate	8 1969
29 Broke pin on 8" bit				Sand	8 1977
shut down 2 days for repair.					

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 MAY - 24 1914  
 Office of Oil and Gas  
 WV Dept. of Environment and Conservation

LOWNDES WELL NO. 4 - Cont'd. (3)

23	Red Rock	23	2000
	Sand	27	2027
24	Red Rock & Shells	21	2048
	Sand	7	2055
	Slate	8	2063
25	5-3/16" Casing		2074
26	Sand	58	2121
	Slate	4	2125
	Sand	8	2133
27	Slate	3	2136
	Sand	20	2156
28	Slate & Shells	53	2208
	Top Fifth Sand		2208
	Steel line run		2213-6
	Bottom 5th Sand		2235
	Total Depth		2216 -

5-3/16" Casing .... 2030 ft.  
 6-5/8" Casing .... 1473 ft. 7

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Office of Oil and Gas  
 WV Dept. of Environmental Protection



WW-4A  
Revised 6-07

1) Date: 4/14/2014  
2) Operator's Well Number  
Lowndes #4

3) API Well No.: 47 - 033 - 4285

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
NOTICE OF APPLICATION TO PLUG AND ABANDON A WELL

4) Surface Owner(s) to be served:	5) (a) Coal Operator
(a) Name <u>Dotson H. Cather, Trustee</u> ✓	Name _____
Address <u>315 Spring Street</u>	Address _____
<u>Clarksburg, WV 26301</u>	
(b) Name _____	(b) Coal Owner(s) with Declaration
Address _____	Name <u>Dotson H. Cather, Trustee</u> ✓
	Address <u>315 Spring Street</u>
	<u>Clarksburg, WV 26301</u>
(c) Name _____	Name <u>Laura Goff Davis</u> ✓
Address _____	Address <u>P.O. Box 707</u>
	<u>Clarksburg, WV 26302</u>
6) Inspector <u>Sam Ward</u>	(c) Coal Lessee with Declaration
Address <u>P.O. Box 2327</u>	Name _____
<u>Buckhannon, WV 26201</u>	Address _____
Telephone _____	

TO THE PERSONS NAMED ABOVE: You should have received this Form and the following documents:

- (1) The application to Plug and Abandon a Well on Form WW-4B, which sets out the parties involved in the work and describes the well its and the plugging work order; and
- (2) The plat (surveyor's map) showing the well location on Form WW-6.

The reason you received these documents is that you have rights regarding the application which are summarized in the instructions on the reverses side. However, you are not required to take any action at all

Take notice that under Chapter 22-6 of the West Virginia Code, the undersigned well operator proposes to file or has filed this Notice and Application and accompanying documents for a permit to plug and abandon a well with the Chief of the Office of Oil and Gas, West Virginia Department of Environmental Protection, with respect to the well at the location described on the attached Application and depicted on the attached Form WW-6. Copies of this Notice, the Application, and the plat have been mailed by registered or certified mail or delivered by hand to the person(s) named above (or by publication in certain circumstances) on or before the day of mailing or delivery to the Chief.

Well Operator PDC Mountaineer, LLC  
 By: Steven P. Johnson  
 Its: Designated Agent  
 Address 120 Genesis Blvd.  
Bridgeport, WV 26330  
 Telephone 304-842-3597

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MAY - 7 2014

Subscribed and sworn before me this 23rd day of April, 2014  
S. Louise Edgell Notary Public  
 My Commission Expires August 15, 2018



Oil and Gas Privacy Notice

The Office of Oil and Gas processes your personal information, such as name, address and phone number, as a part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use of your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

05/30/2014

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL AND GAS

CONSTRUCTION AND RECLAMATION PLAN AND SITE REGISTRATION APPLICATION FORM  
GENERAL PERMIT FOR OIL AND GAS PIT WASTE DISCHARGE

Operator Name PDC Mountaineer, LLC OP Code 494494839

Watershed Davisson Run Quadrangle Wolf Summit 7.5'

Elevation 316 m (1,036 ft.) County Harrison District Clark

Description of anticipated Pit Waste: Produced Fluids

Will a synthetic liner be used in the pit? Yes 20ML

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection ( UIC Permit Number #2459, Noble County, Ohio )
- Reuse (at API Number \_\_\_\_\_)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain \_\_\_\_\_)

*SDW  
4/24/2014*

Proposed Work For Which Pit Will Be Used:

- Drilling
- Workover
- Other (Explain \_\_\_\_\_)
- Swabbing
- Plugging

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

Company Official Signature Steven P. Johnson

Company Official (Typed Name) Steven P. Johnson

Company Official Title Designated Agent

Received

Subscribed and sworn before me this 23rd day of April, 20 14

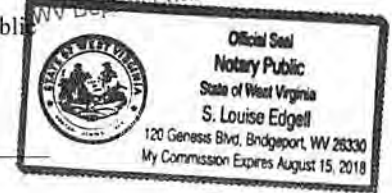
S. Louise Edgell

Notary Public

My commission expires August 15, 2018

MAY - 7 2014

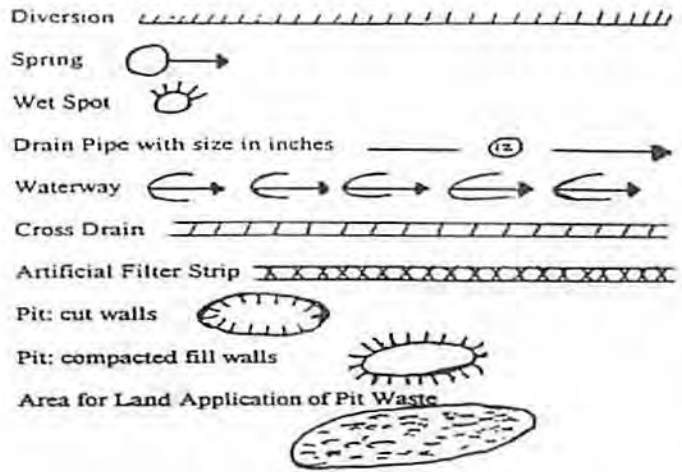
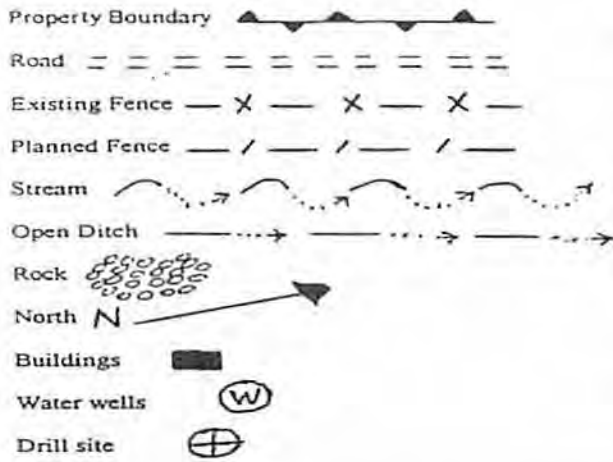
Office of Oil and Gas  
Department of Environmental Protection



05/30/2014



LEGEND



Proposed Revegetation Treatment: Acres Disturbed 1.25 acres +/- Prevegetation pH TBD

Lime TBD Tons/acre or to correct to pH 6.5

Fertilizer (10-20-20 or equivalent) 500 lbs/acre (500 lbs minimum)

Mulch hay or straw Tons/acre

Seed Mixtures

Seed Type	Area I	lbs/acre	Seed Type	Area II	lbs/acre
Kentucky Bluegrass	40		Orchard Grass	15	
Alsike Clover	5		Alsike Clover	5	
Annual Rye	1				

Attach:  
Drawing(s) of road, location, pit and proposed area for land application.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by:

Comments: \_\_\_\_\_

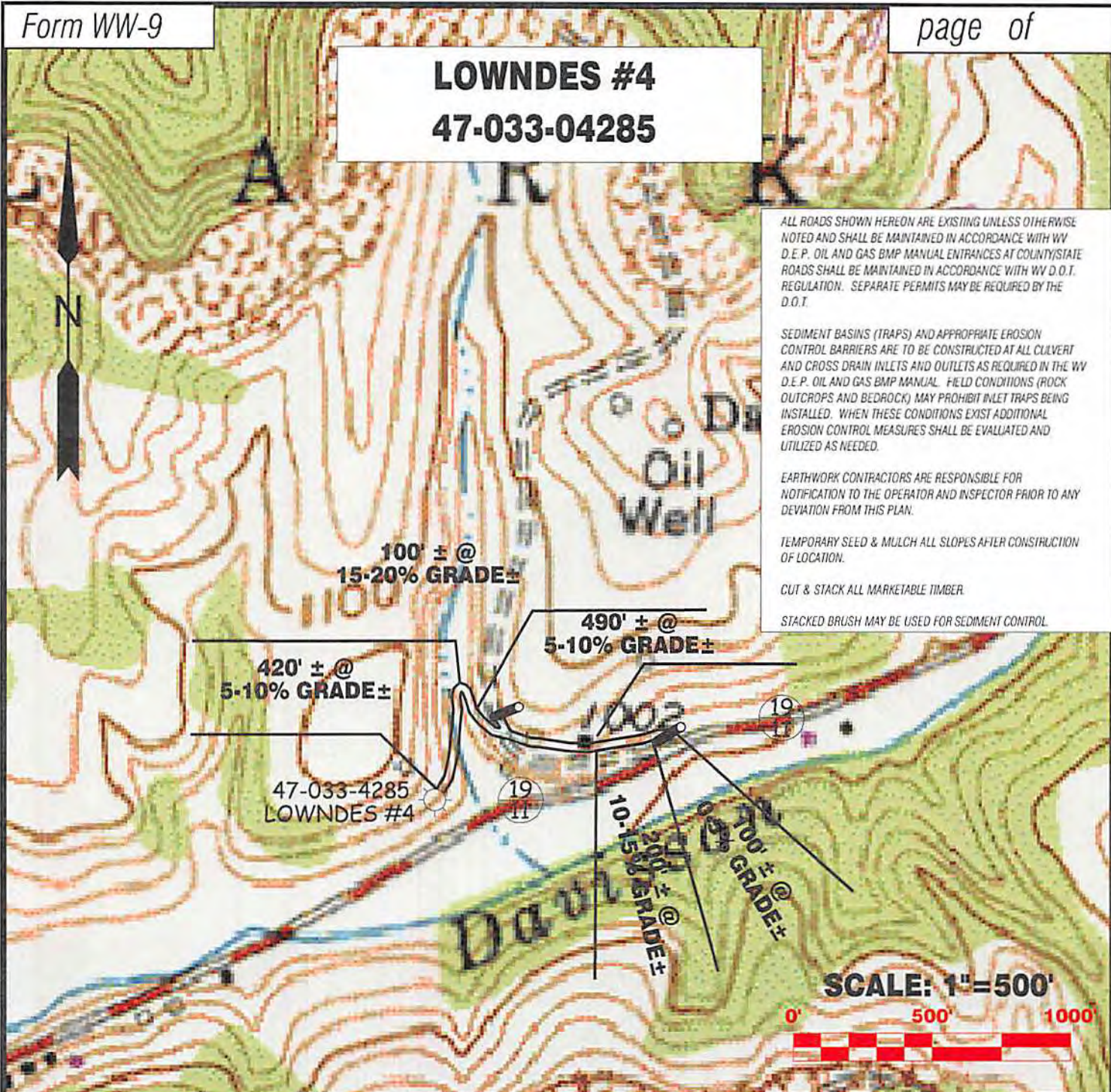
Title: Oil and gas inspector Date: 4/24/2014

Field Reviewed? ( ) Yes ( X ) No

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Department of Environmental Protection  
05/30/2014



# LOWNDES #4 47-033-04285



ALL ROADS SHOWN HEREON ARE EXISTING UNLESS OTHERWISE NOTED AND SHALL BE MAINTAINED IN ACCORDANCE WITH WV D.E.P. OIL AND GAS BMP MANUAL ENTRIES AT COUNTY/STATE ROADS SHALL BE MAINTAINED IN ACCORDANCE WITH WV D.O.T. REGULATION. SEPARATE PERMITS MAY BE REQUIRED BY THE D.O.T.

SEDIMENT BASINS (TRAPS) AND APPROPRIATE EROSION CONTROL BARRIERS ARE TO BE CONSTRUCTED AT ALL CULVERT AND CROSS DRAIN INLETS AND OUTLETS AS REQUIRED IN THE WV D.E.P. OIL AND GAS BMP MANUAL. FIELD CONDITIONS (ROCK OUTCROPS AND BEDROCK) MAY PROHIBIT INLET TRAPS BEING INSTALLED. WHEN THESE CONDITIONS EXIST ADDITIONAL EROSION CONTROL MEASURES SHALL BE EVALUATED AND UTILIZED AS NEEDED.

EARTHWORK CONTRACTORS ARE RESPONSIBLE FOR NOTIFICATION TO THE OPERATOR AND INSPECTOR PRIOR TO ANY DEVIATION FROM THIS PLAN.

TEMPORARY SEED & MULCH ALL SLOPES AFTER CONSTRUCTION OF LOCATION.

CUT & STACK ALL MARKETABLE TIMBER.

STACKED BRUSH MAY BE USED FOR SEDIMENT CONTROL.

SCALE: 1"=500'



NOTE: APPLY STONE AT ALL PIPELINE CROSSING

RIG MATS TO BE INSTALLED AT STREAM CROSSING

WOODS PIT

47-033-4285  
LOWNDES #4

EXISTING CULVERT

EXISTING CULVERT

19  
11

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NOT TO SCALE 05/30/2014

**Professional Energy Consultants**  
A DIVISION OF SMITH LAND SURVEYING

SURVEYORS PROJECT MGMT. **SLS** ENGINEERS ENVIRONMENTAL

P.O. Box 150  
Clarksburg, WV 26301  
(304) 462-8434

36025 Olive Bottom Road  
Martinsburg, OH 43947  
(740) 671-9911

HONESTY. INTEGRITY. QUALITY.

TOPO SECTION OF USGS  
WOLF SUMMIT  
7.5' QUADRANGLE



PDC MOUNTAINEER

DRAWN BY C.P.M.	FILE NO. 8192	DATE 04-03-14	CADD FILE: 8192REC.DWG
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# LOWNDES(GOFF) LEASE WELL NO. 4 (A.P.I. 47-033-04285)



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Professional Energy Consultants  
A DIVISION OF BETH LAND SURVEYING

SURVEYORS PROJECT MGMT. ENGINEERS ENVIRONMENTAL

**SLS**

P.O. Box 100  
Guwaha, WV 26031  
(304) 463-9634

8881 Grove Bottom Road  
Shenandoah, OH 43167  
(740) 471-8811

HONESTY. INTEGRITY. QUALITY.

TOPO SECTIONS OF: WOLF SUMMIT 7.5'

FILE NO. 8192

DATE: 03/11/14

SCALE: 1" = 1,000' **05/30/2014**



WW-7  
8-30-06



CK 30061  
100

West Virginia Department of Environmental Protection  
Office of Oil and Gas  
**WELL LOCATION FORM: GPS**

API: 47-033-4285 WELL NO.: Lowndes #4

FARM NAME: Lowndes (Goff)

RESPONSIBLE PARTY NAME: PDC Mountaineer, LLC

COUNTY: Harrison DISTRICT: Clark

QUADRANGLE: Wolf Summit

SURFACE OWNER: Dotson H. Cather Trustee (TM 326 Parcel 89)

ROYALTY OWNER: Laura Goff Davis et al

UTM GPS NORTHING: 4346077

UTM GPS EASTING: 551787 GPS ELEVATION: 316 m (1036')

The Responsible Party named above has chosen to submit GPS coordinates in lieu of preparing a new well location plat for a plugging permit or assigned API number on the above well. The Office of Oil and Gas will not accept GPS coordinates that do not meet the following requirements:

1. Datum: NAD 1983, Zone: 17 North, Coordinate Units: meters, Altitude: height above mean sea level (MSL) – meters.
2. Accuracy to Datum – 3.05 meters
3. Data Collection Method:

Survey grade GPS  ; Post Processed Differential

Real-Time Differential

Mapping Grade GPS  ; Post Processed Differential

Real-Time Differential

4. Letter size copy of the topography map showing the well location.

I the undersigned, hereby certify this data is correct to the best of my knowledge and belief and shows all the information required by law and the regulations issued and prescribed by the Office of Oil and Gas.

Gregory A. Smith, P.S. Agent  
Signature Title

3-11-14  
Date

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MAY - 7 2014

Office of Oil and Gas  
Dept. of Environmental Protection